

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A display device having at least a different resolution first mode and second mode having a lower resolution than said first mode, comprising:
 - a pixel portion comprised of pixel circuits, for writing pixel data into pixel cells through switching elements, arranged so as to form a matrix of at least a plurality of rows;
 - a plurality of scan lines arranged so as to correspond to a row arrangement of said pixel circuits and controlling conduction of said switching elements;
 - at least one signal line arranged so as to correspond to a column arrangement of said pixel circuits and propagating said pixel data; and
 - a vertical drive circuit including a plurality of switch circuits, each switch circuit coupling an adjacent plurality of scan lines in the row direction, the switch circuits adapting the vertical drive circuit to
 - successively transmit scan pulses along said scan lines in a row direction ~~by~~ and successively select the pixel circuits connected to the scan lines in units of rows in said first mode, and
 - successively scan transmit scan pulses along adjacent pluralities of said scan lines in the row direction and successively select the pixel circuits connected to said plurality of scan lines in units of the plurality of rows in said second mode; and wherein each switch circuit include an input for the adjacent scan lines and at least one mode signal.
2. (Previously presented) A display device as set forth in claim 1, wherein during the second mode, said vertical drive circuit sets an edge timing of all scan pulses for a given successive plurality of scan lines in parallel.
3. (Previously presented) A display device as set forth in claim 1, further comprising a horizontal drive circuit including a selector having selector switches for selecting the pixel data and supplying the pixel data to said signal lines, said selector switches formed by connecting pluralities

of switches in parallel to the corresponding signal lines, making said pluralities of switches conductive and outputting the selected pixel data to the signal lines through said pluralities of switches in said first mode, and making any switches among said pluralities of switches conductive and outputting the selected pixel data to the signal lines through said switches in said second mode.

4. (Previously presented) A display device as set forth in claim 2, further comprising a horizontal drive circuit including a selector having selector switches for selecting the pixel data and supplying the pixel data to said signal lines, said selector switches formed by connecting pluralities of switches in parallel to the corresponding signal lines, making said pluralities of switches conductive and outputting the selected pixel data to the signal lines through said pluralities of switches in said first mode, and making any switches among said pluralities of switches conductive and outputting the selected pixel data to the signal lines through said switches in said second mode.

5. (Original) A display device as set forth in claim 1, wherein said display device:
comprises a plurality of said signal lines and
comprises a plurality of horizontal drive circuits dividing said plurality of signal lines into a plurality of groups and supplying pixel data to the signal lines corresponding to the divided groups.
6. (Original) A display device as set forth in claim 1, wherein said display device:
comprises a plurality of said signal lines and
comprises a plurality of horizontal drive circuits dividing said plurality of signal lines into a plurality of groups and supplying pixel data to the signal lines corresponding to the divided groups,
each horizontal drive circuit including a selector having selector switches for selecting the pixel data and supplying the same to said signal lines, said selector switches formed by connecting pluralities of switches in parallel to the corresponding signal lines, making said pluralities of switches conductive and outputting the selected pixel data to the signal lines through said pluralities of switches in said first mode, and making any switches

among said pluralities of switches conductive and outputting the selected pixel data to the signal lines through said switches in said second mode.

7. (Original) A display device as set forth in claim 2, wherein said display device: comprises a plurality of said signal lines and comprises a plurality of horizontal drive circuits dividing said plurality of signal lines into a plurality of groups and supplying pixel data to the signal lines corresponding to the divided groups, each horizontal drive circuit including a selector having selector switches for selecting the pixel data and supplying the same to said signal lines, said selector switches formed by connecting pluralities of switches in parallel to the corresponding signal lines, making said pluralities of switches conductive and outputting the selected pixel data to the signal lines through said pluralities of switches in said first mode, and making any switches among said pluralities of switches conductive and outputting the selected pixel data to the signal lines through said switches in said second mode.

8. (Original) A display device as set forth in claim 1, wherein said pixel cells are liquid crystal cells.

9. (Previously presented) A method of driving a display device including a pixel portion comprised of pixel circuits, for writing pixel data into pixel cells through switching elements, arranged so as to form a matrix of at least a plurality of rows and a plurality of scan lines arranged so as to correspond to the row arrangement of said pixel circuits and for controlling the conduction of said switching elements, comprising using a plurality of switch circuits, each switch circuit coupling an adjacent plurality of scan lines in the row direction to perform the steps of:

successively transmitting scan pulses along said scan lines in the row direction and successively selecting the pixel circuits connected to the scan lines in units of rows in a first mode having a predetermined resolution and

successively transmitting scan pulses along adjacent pluralities of said scan lines in the row direction and successively selecting the pixel circuits connected to said plurality of scan lines in units of said plurality of rows in a second mode having a lower resolution than said first mode.

10. (Original) A method of driving a display device as set forth in claim 9, further comprising setting a rear edge timing of the scan pulses for outputting the scan pulses to be output to a plurality of scan lines to be scanned simultaneously in parallel to the scan lines of a previous stage earlier than the rear edge timing of the scan pulses to be output to the scan lines of the next stage in said second mode.

11. (Original) A method of driving a display device as set forth in claim 9, wherein said pixel cells are liquid crystal cells.

12. (Previously presented) A display device as set forth in claim 1, wherein each switch circuit couples adjacent scan lines in pairs of an odd scan line and even scan line.

13. (Cancelled)

14. (Currently Amended) A display device ~~as set forth in claim 1,~~ having at least a different resolution first mode and second mode having a lower resolution than said first mode, comprising:
a pixel portion comprised of pixel circuits, for writing pixel data into pixel cells through
switching elements, arranged so as to form a matrix of at least a plurality of rows;
a plurality of scan lines arranged so as to correspond to a row arrangement of said pixel
circuits and controlling conduction of said switching elements;
at least one signal line arranged so as to correspond to a column arrangement of said pixel
circuits and propagating said pixel data; and

a vertical drive circuit including a plurality of switch circuits, each switch circuit coupling an adjacent plurality of scan lines in the row direction, the switch circuits adapting the vertical drive circuit to successively transmit scan pulses along said scan lines in a row direction and successively select the pixel circuits connected to the scan lines in units of rows in said first mode, and successively scan transmit scan pulses along adjacent pluralities of said scan lines in the row direction and successively select the pixel circuits connected to said plurality of scan lines in units of the plurality of rows in said second mode; and wherein when the display device is in the first mode, the plurality of switches switch do not effect the scan pulses output by the vertical drive circuit, and when the display device is in the second mode plurality of switches combines the scan pulses of the coupled scan lines and outputs the combined scan pulses along the adjacent plurality of scan lines.

15. (Currently Amended) A display device ~~as set forth in claim 1,~~ having at least a different resolution first mode and second mode having a lower resolution than said first mode, comprising:
a pixel portion comprised of pixel circuits, for writing pixel data into pixel cells through switching elements, arranged so as to form a matrix of at least a plurality of rows;
a plurality of scan lines arranged so as to correspond to a row arrangement of said pixel circuits and controlling conduction of said switching elements;
at least one signal line arranged so as to correspond to a column arrangement of said pixel circuits and propagating said pixel data; and
a vertical drive circuit including a plurality of switch circuits, each switch circuit coupling an adjacent plurality of scan lines in the row direction, the switch circuits adapting the vertical drive circuit to successively transmit scan pulses along said scan lines in a row direction and successively select the pixel circuits connected to the scan lines in units of rows in said first mode, and

successively scan transmit scan pulses along adjacent pluralities of said scan lines in the row direction and successively select the pixel circuits connected to said plurality of scan lines in units of the plurality of rows in said second mode; and
wherein the at least one mode signal comprises at least one non-pulsing signal representing whether the display device is operating in the first mode or second mode.

16. (Currently Amended) A display device ~~as set forth in claim 1,~~ having at least a different resolution first mode and second mode having a lower resolution than said first mode, comprising:
a pixel portion comprised of pixel circuits, for writing pixel data into pixel cells through switching elements, arranged so as to form a matrix of at least a plurality of rows;
a plurality of scan lines arranged so as to correspond to a row arrangement of said pixel circuits and controlling conduction of said switching elements;
at least one signal line arranged so as to correspond to a column arrangement of said pixel circuits and propagating said pixel data; and
a vertical drive circuit including a plurality of switch circuits, each switch circuit coupling an adjacent plurality of scan lines in the row direction, the switch circuits adapting the vertical drive circuit to
successively transmit scan pulses along said scan lines in a row direction and successively select the pixel circuits connected to the scan lines in units of rows in said first mode, and
successively scan transmit scan pulses along adjacent pluralities of said scan lines in the row direction and successively select the pixel circuits connected to said plurality of scan lines in units of the plurality of rows in said second mode; and
wherein the vertical drive circuit comprises:
a plurality of shift registers;
a plurality of sampling latches; and
a plurality of power supply level shifters;

each scan line in the vertical drive circuit being exclusive associated with a corresponding shift register, a corresponding sampling latch and a corresponding power supply level shifter, and the output of each shift register corresponding a scan line is input to a switch circuit, the switch circuit having an input corresponding with each scan line and an output corresponding to each scan line, and the outputs from the switch circuit corresponding to each scan line inputs data to the sampling latches corresponding to each scan line.